

**Abstract**

A computer graphics and analysis application improvement providing calculation, regeneration, and display of mechanism solutions based on inputted desired functions such as part positions by extracting functional requirements data from such inputted data so that the designer or engineer can view the mechanism solutions in space and thereby design the desired mechanism or mechanisms. The computing application extracts the functional requirements data (such as point and angular references) from the inputted function data, such as part positions. Using the inputted data, the computing application calculates, generates, and displays mechanism solutions based on the function or functions and provides the engineer or designer with meaningful visualization of how the mechanism would work, for example by showing how the part would move through desired positions in space, in addition to including the mechanism's or mechanisms' motion path, coupler curve, and other visual data helpful to the engineer in the design of the mechanism.